Health Literacy: Scale Validity and Reliability for Turkish Diabetic Patients

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Turkey
Suleyman Demirel University

[Map showing the location of Turkey and Suleyman Demirel University, with a distance marked as 5871 miles.]
Outline

✓ Importance of the Problem
✓ Study Aim
✓ Methods
✓ Results
✓ Conclusion
✓ Relevance to clinical practice
Importance of the Problem

Recently, patient participation in health care activities maintains its importance and increases gradually for successful disease management.

Tanriover et al., 2014
Gazmararian et al., 2003
Importance of the Problem

Patients are expected to

✓ understand health and disease related subjects

✓ be knowledgeable about their illness

✓ use this knowledge by applying in health behaviors as well as disease management

Tanriover et al., 2014
Gazmararian et al., 2003
Health Literacy

Level of cognitive and social abilities needed for effective communication for seeking information about diabetes.

Hardship of the patient during reading the brochure and descriptions.

How patients evaluates knowledge obtained for health, uses it to make the right decision about own health.

Study Aim

✓ Examine psychometric properties of health literacy scale for Turkish adult type 2 diabetes patients
Method

- Methodological (validity-reliability) study
- Internal medicine outpatient clinic of university hospital in Turkey

✓ Inclusion criteria for participation
  ✓ Being 18 years or older
  ✓ Type 2 diabetes diagnose for at least more than one year
  ✓ Ability to communicate
  ✓ Willingness to participate
Method

✓ Sample included 140 diabetic patients

✓ Sample size calculated with targeting at least 10 patient representation of each scale item.

✓ By calculation for 14-itemed scale; 140 patients meeting the criteria were include in the study.
Method

✓ Patient Information Form
✓ Socio-demographic and disease related information of patients (14 Qs)

✓ Health Literacy Scale
✓ Functional (5 items), Interactive (5 items), Critical (4 items)

✓ Higher scores of interactive and critical HL higher HL levels,
✓ Low score high HL in functional health literacy
Method

Ethical Consideration

✓ Ethical approval from universities council
✓ Written consent from patients

Statistical Analysis
Method

- Adaptation process of the scale
- Translation to Turkish and back translation (language validity).
- Expert opinion and consultation (content validity).
- Turkish language expert consultation for language, comprehension, and grammar of scale (language validity)
- Reliability studies with test-retest, item factor analyses, internal consistency and split half methods.
## Results

<table>
<thead>
<tr>
<th>Patients Descriptive Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td><strong>Educational Background</strong></td>
</tr>
<tr>
<td><strong>Economic Status</strong></td>
</tr>
<tr>
<td><strong>Diabetes diagnosis duration</strong></td>
</tr>
<tr>
<td><strong>Complications- acute</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Complications- chronic</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Type of Diabetes Treatment</strong></td>
</tr>
<tr>
<td><strong>Diabetes Education</strong></td>
</tr>
</tbody>
</table>
## Reliability Analysis

<table>
<thead>
<tr>
<th>Dimensions of the Scale</th>
<th>Number of the items</th>
<th>Cronbach Alpha Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>5</td>
<td>0.964</td>
</tr>
<tr>
<td>Communicative</td>
<td>5</td>
<td>0.917</td>
</tr>
<tr>
<td>Critical</td>
<td>4</td>
<td>0.963</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>0.956</td>
</tr>
</tbody>
</table>
# Factor Analysis

<table>
<thead>
<tr>
<th>Item Numbers</th>
<th>Factor 1 (Functional)</th>
<th>Factor 2 (Communicative)</th>
<th>Factor 3 (Critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3, 4, 2, 5, 1</td>
<td>12, 13, 11, 14, 9, 10</td>
<td>6, 7, 8</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>4.644</td>
<td>4.443</td>
<td>2.764</td>
</tr>
<tr>
<td>Variance</td>
<td>33.175</td>
<td>31.739</td>
<td>19.746</td>
</tr>
<tr>
<td>Cronbach Alpha values</td>
<td>0.964</td>
<td>0.917</td>
<td>0.963</td>
</tr>
<tr>
<td>Lower Dimensions</td>
<td>Item Numbers</td>
<td>Item Numbers in Original Scale</td>
<td>Mean</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------</td>
<td>--------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Functional</td>
<td>5</td>
<td>5</td>
<td>13.91±5.63</td>
</tr>
<tr>
<td>Communicative</td>
<td>6</td>
<td>5</td>
<td>14.23±4.53</td>
</tr>
<tr>
<td>Critical</td>
<td>3</td>
<td>4</td>
<td>10.96±3.99</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>14</td>
<td>39.10±12.31</td>
</tr>
<tr>
<td>Items</td>
<td>Corrected Item-Total Correlation (n=140)</td>
<td>Alpha Value (When removing the item)</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1. The writings were quite small to read.</td>
<td>0.738</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>2. There were words, symbols or abbreviations whose meanings I did not know.</td>
<td>0.776</td>
<td>0.951</td>
<td></td>
</tr>
<tr>
<td>3. The content of the texts was very hard.</td>
<td>0.750</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>4. I needed long time to read and understand.</td>
<td>0.758</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>5. I needed someone’s help to read.</td>
<td>0.736</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>6. I obtained information from various sources.</td>
<td>0.747</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>7. I had the information that I wanted.</td>
<td>0.775</td>
<td>0.951</td>
<td></td>
</tr>
<tr>
<td>8. I understood the information that I obtained.</td>
<td>0.780</td>
<td>0.951</td>
<td></td>
</tr>
<tr>
<td>9. I shared my opinions about my health with someone else.</td>
<td>0.641</td>
<td>0.954</td>
<td></td>
</tr>
<tr>
<td>10. I applied the information that I obtained to my daily life.</td>
<td>0.611</td>
<td>0.955</td>
<td></td>
</tr>
<tr>
<td>11. I carefully thought over whether the information was appropriate for my situation.</td>
<td>0.845</td>
<td>0.950</td>
<td></td>
</tr>
<tr>
<td>12. I carefully thought over the reliability of the information.</td>
<td>0.858</td>
<td>0.950</td>
<td></td>
</tr>
<tr>
<td>13. I controlled whether the information is correct.</td>
<td>0.813</td>
<td>0.950</td>
<td></td>
</tr>
<tr>
<td>14. I obtained information to make decisions about my health.</td>
<td>0.812</td>
<td>0.951</td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

- Health Literacy Scale was found valid and reliable for Turkish diabetes patients.
- Low levels of health literacy is associated with important healthcare outcomes.
- Effective management of diabetes, needs engagement of patients in management of their chronic condition and increasing self-efficacy, autonomy and disease knowledge.
Relevance to Clinical Practice

The results of this study will

-Allow clinicians to assess health literacy levels of their patients, identify patients with limited health literacy and develop strategies to improve healthcare and personal outcomes.
THANKS FOR KIND ATTENTION & INTEREST
SDU Faculty of Health Sciences Department of Nursing, members of the nursing professionals in the field of training, vision, experienced staff, up to date technological equipment, business associations and scientific research at the international level and the national and international level educational institution, recognized and continues to be a nursing preferred.

The graduates serve in all civil and private institutions of health sector with the title of nurse. The department established with the aim of training nurses who are respectful towards human rights, have lifelong learning, teaching and communication skills and are competent in professional and scientific areas in the light of universal and cultural values, and exerting efforts to gain the autonomy of nursing profession provides education in order to improve public health and welfare.